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Nichtgleichgewichtsdynamik kondensierter Materie in der Zeitdomäne

UNIVERSITÄT DUISBURG ESSEN

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Insights into non-equilibrium phase transitions: a study on 1T-$TiSe_2$ using time-resolved Raman spectroscopy

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In the realm of solid-state physics and non-equilibrium phenomena, we investigate transient photo-induced phases and phase transitions. Employing time-resolved Raman spectroscopy, we analyze the phonon response after photoexcitation. Our study focuses on 1T-$TiSe_2$, a unique charge density wave (CDW) system. We identify metastable states driven by specific photoexcitation densities. These findings elucidate novel aspects of the CDW phase in 1T-$TiSe_2$ and contribute to our understanding of its non-equilibrium phase transition.

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